

REMARKS

Upon entry of the present Amendment-B the claims in the application are claims 1-16, of which claims 1, 3, 4 and 7 are independent. Correspondingly, the Commissioner is hereby authorized to charge \$200.00 to Deposit Account 50-0744 in the name of Carrier, Blackman & Associates, P.C. in payment of the fee for a 4<sup>th</sup> independent claim. A duplicate copy of this sheet is enclosed.

In the above amendments: the claims are modified to overcome the Examiner's objections set forth at pages 2-3 of the Office Action, including changes suggested by the Examiner; claim 1 is further modified to define that the stationary member is fixed directly to the mounting member; claims 3 and 7 are rewritten in independent form including all of the limitations of the base and intervening claims from which they formerly depended; claim 4 is further modified to define that the position sensor detects the detecting object by measuring an interruption of a magnetic field caused by the detecting object; claim 6 is further modified to define that the first mounting member and the detecting object are integrally formed to provide a single piece; claims 8 and 10 are modified to further define the integral, single piece nature of the mounting member as fixed to one of the position sensor and the detecting object; and new claims 11-16 further define structural and functional aspects of the position sensor, the mounting member and the detecting object.

Applicant respectfully submits that all of the above amendments are fully supported by the original application. Applicant also respectfully submits that the above amendments do not introduce any new matter into the application.

Still further, applicant respectfully submits that the above amendments overcome the

rejection of claims 1-10 under 35 USC 112, second paragraph, set forth on pages 2-3 of the Office Action, and it is respectfully requested that the rejection be reconsidered and withdrawn.

Allowable Subject Matter

Applicant gratefully acknowledges the Examiner's indication at page 8 of the Office Action that claims 3 and 7 contain allowable subject matter, and in light of the above amendments these claims are now believed to be allowable.

The Rejections Under 35 USC 102

1. **The Examiner has rejected claims 1, 4, and 8-10 under 35 USC 102(b) as being anticipated by Taniuchi (JP59023740A).** The Examiner states that Taniuchi teaches a seat position detection unit equipped with a slide mechanism that allows a seat to slide with respect to the floor, the seat position detection unit 9 comprising a position sensor 18, a detecting object detected by position sensor 18, and a mounting member as claimed by the applicant.
2. **The Examiner has rejected claims 1, 4, and 8-10 under 35 USC 102(b) as being anticipated by Michihira et al (JP 62020737A).** The Examiner states that Michihira teaches a seat position detection unit equipped with a slide mechanism that allows a seat to slide with respect to the floor, the seat position detection unit comprising a position sensor 20, 22, a detecting object detected by position sensor 20, 22, and a mounting member as claimed by the applicant.
3. **The Examiner has rejected claims 1, 4, and 8-10 under 35 USC 102(b) as being anticipated by Tanaka (JP 62234744A).** The Examiner states that Tanaka teaches a seat position detection unit equipped with a slide mechanism that allows a seat to slide with respect to the floor, the seat position detection unit 7 comprising a position sensor 3,5, a detecting object detected by position sensor 3,5, and a mounting member as claimed by the applicant.

4. **The Examiner has rejected claims 1, 4, and 8-10 under 35 USC 102(b) as being anticipated by Amano (JP 01240331A).** The Examiner states that Amano teaches a seat position detection unit equipped with a slide mechanism that allows a seat to slide with respect to the floor, the seat position detection unit comprising a position sensor 25, 26, a detecting object detected by position sensor 25, 26, and a mounting member as claimed by the applicant.
5. **The Examiner has rejected claims 1, 4, and 8-10 under 35 USC 102(b) as being anticipated by Oshima (JP 03243432A).** The Examiner states that Oshima teaches a seat position detection unit 21,22 equipped with a slide mechanism that allows a seat to slide with respect to the floor, the seat position detection unit comprising a position sensor, a detecting object detected by position sensor, and a mounting member as claimed by the applicant.
6. **The Examiner has rejected claims 1, 4, and 8-10 under 35 USC 102(b) as being anticipated by Schuler (US 5,873,629).** The Examiner states that Schuler teaches a seat position detection unit 13 equipped with a slide mechanism that allows a seat to slide with respect to the floor, the seat position detection unit comprising a position sensor, a detecting object detected by position sensor, and a mounting member as claimed by the applicant.
7. **The Examiner has rejected claims 1, 4, and 8-10 under 35 USC 102(b) as being anticipated by Frusti et al (US 6,053,529).** The Examiner states that Frusti teaches a seat position detection unit equipped with a slide mechanism that allows a seat to slide with respect to the floor, the seat position detection unit comprising a position sensor, a detecting object detected by position sensor, and a mounting member as claimed by the applicant.
8. **The Examiner has rejected claims 1-2, 4-6, and 8-10 under 35 USC 102(e) as being anticipated by Kume et al (US Patent App No. 2002/0125396 A1).** The Examiner states that

Kume teaches a seat position detection unit 5 equipped with a slide mechanism that allows a seat to slide with respect to the floor, the seat position detection unit comprising a position sensor, a detecting object detected by position sensor, and a mounting member as claimed by the applicant.

Applicant's Response

Upon careful consideration, and in light of the above amendments to the claims, applicant respectfully submits that the above rejections are overcome and that claims 1, 2, 4-6 and 8-10 are patentably distinct over the applied references, based on the following.

1. Regarding the Taniuchi reference, applicant notes that the seat position detection unit disclosed therein uses a light emitter and light receiver as a means of detecting reflected light, and counts the number of light periods reflected back from a tape which includes a series of intermittent reflective bodies to determine seat position. It appears that the Examiner interprets upper rail 3 to correspond to the movable member, and lower rail 1 to correspond to the stationary member. The position sensor 9 is secured to the movable member 3, and senses light reflected back from a detecting object (reflective tape 7) fixed to the stationary member (lower rail 1).

Applicant respectfully disagrees with the Examiner's rejection of claim 1 as anticipated by Taniuchi, since Taniuchi does not disclose a mounting member which is adapted to mount the stationary member (lower rail 1) to the floor. Taniuchi, as best as can be understood from the translated abstract and figures, does not disclose whether, or how, or to what the lower rail is attached and so clearly does not show a mounting member for the lower rail. Taniuchi further does not disclose one of the position sensor or detecting object *being directly fixed to* the mounting member, as recited by the applicant, since no mounting member is disclosed.

Applicant respectfully submits that the claimed structure, including one of the position sensor and the detecting object that is attached to the stationary member directly fixed to the mounting member, is quite significant because the sensor and detecting object will be surely placed at appropriate relative positions whenever the seat reaches a certain position. If the positional relation between the detecting object and the sensor is not the same every time, the detection accuracy of the detecting object by the sensor will be detrimentally affected by the positional relation.

As regards claim 4, respectfully disagrees with the Examiner's position that Taniuchi discloses a mounting member which is adapted to mount the stationary member to the floor as discussed above with respect to claim 1, and further disagree that Taniuchi discloses a detecting object (reflective tape 7) provided as a *single piece with the mounting member*, as recited in this claim, since no mounting member is disclosed by Taniuchi. Again, this is an important distinction because the single piece nature of the mounting member and the detecting object assures a proper positional relationship between the sensor and the detecting object. Also, because the single piece nature of the components, the time required for installing the detecting object with positional accuracy can be minimized, which results in a great cost savings in comparison to conventional systems, such as that of Taniuchi.

Moreover, claim 4 is amended above to define that the sensor detects the detecting object by measuring an interruption of a magnetic field caused by the detection object, whereas conversely Taniuchi's system detects position based on reflected light.

As regards claims 8-10, which are directed to features of the mounting member, since Taniuchi does not disclose a mounting member, Taniuchi does not anticipate these claims.

2. Michihira's seat position detection unit detects the position of the seat by counting rotations of a motor which is rotatively linked to threaded rod 15. The motor is supported on a movable upper rail 14 using a bracket 16, and senses the position of bracket 16 relative to the threaded rod 15, which is secured to the vehicle floor through bracket 13. A position detecting sensor 22 detects the rotation of motor 17, and a microcomputer 20 counts the rotations of the motor output shaft to determine the distance to the end of the threaded rod 15, and controls seat movement based thereon.

Applicant respectfully submits that Michihira's system does not anticipate the seat position detection unit of claim 1 because both his sensor 22 and detecting object (output shaft of motor 17) are supported on the movable upper rail, and hence neither is attached to a stationary member as claimed. Correspondingly, Michihira also does not disclose one of the position sensor or detecting object *being directly fixed to a mounting member as claimed*.

As regards claim 4, again, Michihira does not disclose a mounting member provided with the detecting object as a single piece as defined because the detecting object is Michihira's motor output shaft, while Michihira detects position based on counted rotations of the output shaft rather than on interruption of a magnetic field as defined.

3. In the Tanaka reference, applicant notes that a string 7 is secured to a movable upper rail of a slide mechanism and passes through a main body 5a of a sensor 5 which is fixed to the lower rail of the slide mechanism, which is in turn fixed to the floor, and that position of the seat is determined based on detection of the rotations of a shaft connecting the main body 5a to a rotor 5d. Thus, Tanaka is quite similar to Michihira in that the sensor 5 and the detecting object (rotating shaft of sensor 5) are both connected to the lower, fixed rail of the slide mechanism.

Applicant respectfully submits that present claims 1 and 4 are patentably distinct over Tanaka's system for substantially the same reasons as discussed in relation to Michihira.

4. From a review of the translated abstract and drawing figures 1 and 2, it appears that Amano discloses a power seat lock device which includes a lower rail 1 having a series of locking recesses 21a formed along one side thereof, and an upper rail 2 having a lock lever 23 which is urged in engagement with a locking recess 21a by a spring 28. A No. 2 sensor 26 determines whether or not lock lever 23 is engaged with a locking recess 21. A power seat driving device 10 is operated to the direction corresponding to a signal detected by a No.1 sensor 25.

Applicant respectfully disagrees with the Examiners rejection of claims as anticipated by Amano for reasons similar to those discussed above in relation to Tanfuchi. Relative to claim 1, while Amano disclose a mounting member (unnumbered bracket and bolt at far left end of rail 1a in Fig. 1) which is adapted to mount the stationary member (lower rail 1) to the floor, he does not disclose one of a position sensor or a detecting object *being directly fixed to* the mounting member, as claimed, since both the detecting object (lock lever 23) and the position sensor 26, 25 are shown as being remotely disposed from the mounting bracket and bolt.

Relative to claim 4, Amano does not disclose (or in any way suggest) that the mounting bracket could be formed as a single piece with the detecting object (lock lever 23), nor does he sense seat position based on interruption of a magnetic field.

5. Applicant finds that Oshima discloses a seat position detection unit comprising an upper rail 5 which slides relative to a lower rail 4. Stop members 31, 32 are provided at each end of lower rail 4. A slide range detection switch 22 is provided on upper rail 5, and signals when it

abuts one of the stop members 31, 32. Also, a memory stop 30 is mounted on the lower rail 4 so as to move freely. A memory position detection switch 21 signals when it abuts memory stop 30. The control mechanism for the motor for positioning the seat operates based on the output from each switch 21, 22. Thus, switches 21 are mounted to upper rail 1, and indicate whether upper rail is at a first end, a second end, or at a memory location along the lower rail.

Again, applicant respectfully submits that such rejection is overcome in relation to the present amended claims 1 and 4 for reasons similar to those discussed in relation to Amano. Relative to claim 1, while Oshima disclose a mounting member (unnumbered brackets and bolts at far right end and rear outside face of lower rail 4 shown in Oshima's figures) which is adapted to mount the stationary member (lower rail 4) to the floor, he does not disclose one of a position sensor or a detecting object *being directly fixed to* the mounting member, as claimed, since both the detecting object (stops 30-32) and the position sensor 20, 21 are shown as being remotely disposed from the mounting brackets and bolts.

Relative to claim 4, Oshima does not disclose (or in any way suggest) that the mounting bracket could be formed as a single piece with the detecting object (stops 30-32), nor does he sense seat position based on interruption of a magnetic field.

6. Applicant respectfully disagrees with the Examiner's rejection of claims based on Schuler since this reference does not disclose every claimed feature of the invention. Schuler does disclose a "sensor" consisting of a bolt 27 which, indicates a locking position when bolt 27 is engaged with the detecting object (hole 28 in the upper surface of latch release 23). Both the position sensor 27 and detecting object 28 are secured to the movable upper rail 8, as shown in FIG. 1, where tracking and blocking device 13 and tilt-arms 14 overlies rack 18, which is secured



to lower rail 9. Thus, the apparatus disclosed by Schuler does not anticipate the limitations of claim 1 in which a position sensor is attached to one of a stationary member and a movable member, and the detecting object is attached to the other of these two members. The apparatus disclosed by Schuler further does not disclose a position sensor or detecting object attached to the stationary member, nor does it disclose the position sensor or detecting object fixed directly to the mounting member as now required by claim 1.

Relative to claim 4, Schuler does not disclose (or in any way suggest) that the mounting bracket could be formed as a single piece with the detecting object, nor does he sense seat position based on interruption of a magnetic field.

7. Applicant respectfully submits that the rejection based on Frusti is overcome since this reference also does not disclose every feature claimed by the applicant. Frusti does disclose a position sensor 50 attached to a stationary member (lower rail 30), and a detecting object secured to a movable member (upper rail 28). Frusti further discloses a mounting member 34 which mounts the stationary member to the floor. However, Frusti does not disclose a position sensor 50, attached to the stationary member, that is fixed directly to the mounting member, as now recited in claim 1. As seen in FIG. 2, 4, and 6, the bracket 34 which mounts lower rail 30 to the floor is well spaced from the sensor 50, and therefore are not fixed directly thereto.

As regards claim 4, Frusti does not disclose a detecting object (44) and a mounting member (34) that are provided as a single piece. They are clearly independent components, especially since the detecting object 44 is fixed to the moving rail, and the mounting member 34 is fixed to the underside of the fixed rail. Further, he does he sense seat position based on interruption of a magnetic field as now claimed.

8. Applicant respectfully disagrees with the Examiner's rejection of claims based on Kume since this reference does not disclose every claimed feature of the invention. Kume does disclose a position sensor 5 attached to a movable member (upper rail body 3), and a detecting object 5c secured to a stationary member (lower rail 2). Kume further discloses a mounting member 2A, 2B which mounts the stationary member to the floor. However, Kume does not disclose a detecting object 5c, attached to the stationary member, that is fixed directly to the mounting member 2A, 2B, as now recited in claim 1. As seen in FIG. 2, the brackets 2A, 2B which mount lower rail 2 to the floor is well spaced from the detecting object 5c, and therefore are not directly fixed thereto.

As regards claims 4, 6, and 10, Kume does not disclose a detecting object 5c and a mounting member 2A or 2B that are provided as a single piece or formed integrally as a single piece. They are clearly independent components, especially since the detecting object 5c is fixed to a lateral sidewall of the fixed rail at the mid portion thereof, and the mounting member 2A or 2B is fixed to the underside of the fixed rail at the end thereof.

Based on the foregoing, the rejections of claims 1, 2, 4-6 and 8-10 as set forth in the Office Action are believed to be overcome, and it is respectfully requested that the rejections be reconsidered and withdrawn.

#### Other matters

New claims 11-16 are believed to be allowable over the references of record based on the merits of claims 1 and 4 discussed above, and on the merits of the additional features set forth in these claims.

**Conclusion**

In conclusion, applicant has overcome the Examiner's rejections of claims 1-10 as presented in the Office Action; the Examiner has indicated that amended claims 3 and 7 will be allowed; and moreover, applicant has considered all of the references of record, and it is respectfully submitted that the invention as defined by each of the present claims is clearly patentably distinct thereover.

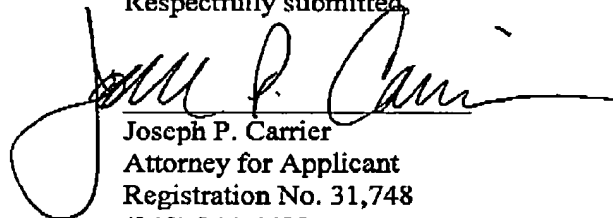
The application is now believed to be in condition for allowance, and a notice to this effect is earnestly solicited.

If the Examiner is not fully convinced of all of the claims now in the application, applicant respectfully requests that the Examiner telephonically contact applicant's undersigned representative to expeditiously resolve prosecution of the application.

Favorable reconsideration is respectfully requested.

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February 8, 2005

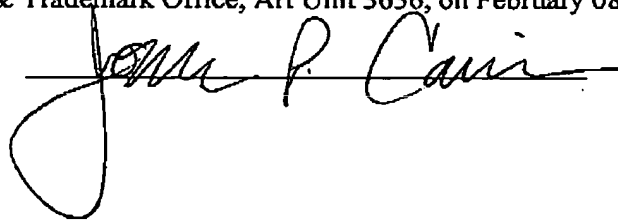
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**CERTIFICATE OF TRANSMISSION**

I hereby certify that this correspondence is being submitted via facsimile transmission to the US Patent & Trademark Office, Art Unit 3636, on February 08, 2005.

JPC/kmm



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Nishide et al.Atty Docket:  
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JRC Feb 8, 2005

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Still further, applicant respectfully submits that the above amendments overcome the